

REMARKS/ARGUMENTS

In the Office Action dated June 21, 2010 (hereinafter, “Office Action”), claims 28-30 were rejected under 35 U.S.C. § 101. Claims 8-9, 11-12, 15-17, 20-21, 23, 28-29, 31-37 and 39-42 were rejected under 35 U.S.C. § 103(a). Claims 10, 22, 24, 30, 38 and 43 were objected to as being dependent upon a rejected claim, but were otherwise allowable. Claims 13, 18 and 44 were allowed. By this paper, claims 8, 11-12, 15-16, 20 and 28-30 are being amended.

Applicants respectfully respond to the Office Action.

I. Claims 28-30 Rejected Under 35 U.S.C. § 101

Claims 28-30 stand rejected under 35 U.S.C. § 101. These claims have been amended to recite a “non-transitory storage medium” instead of a “tangible storage medium. Accordingly, Applicants respectfully request that the rejection of claims 28-30 under 35 U.S.C. § 101 be withdrawn.

II. Claims 12, 31-37 and 39-42 Rejected Under 35 U.S.C. § 103(a)

Claims 12, 31-37 and 39-42 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,421,527 to DeMartin et al. (hereinafter, “DeMartin”) in view of U.S. Patent No. 5,216,692 to Ling (hereinafter, “Ling”) in view of U.S. Patent No. 6,285,886 to Kamel et al. (hereinafter, “Kamel”) further in view of U.S. Patent No. 6,856,812 to Budka et al. (hereinafter, “Budka”). Applicants respectfully request reconsideration in view of the above claim amendments and the following remarks.

The factual inquiries that are relevant in the determination of obviousness are determining the scope and contents of the prior art, ascertaining the differences between the prior art and the claims in issue, resolving the level of ordinary skill in the art, and evaluating evidence of secondary consideration. KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (citing Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966)). As the Board of Patent Appeals and Interferences has recently confirmed, “obviousness requires a suggestion of all limitations in a

claim.” In re Wada and Murphy, Appeal 2007-3733 (citing CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003)).

Claim 12, as amended, recites “receive circuitry operative to receive signals on a reverse link, including quality messages with parity checks at a first rate, and differential indicators at a second rate, each quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages..., wherein the second rate is greater than the first rate.” Support for the subject matter added by amendment is provided, for example, at paragraph [1043] and Figure 3D of the pending application.

The Office Action acknowledges that DeMartin, Ling, and Kamel fail to teach the foregoing subject matter of claim 12. (Office Action, page 5.) Instead, the Office Action relies on Budka to teach this subject matter. However, Applicants respectfully submit that Budka fails to teach the above-identified subject matter.

Budka involves an “airlink quality measurement reported by the mobile [unit that] is an average of the airlink quality of a previous group of blocks.” (Budka, col. 4, lines 56-58.) Each block of the group of blocks, however, may be transmitted at a different power level. (Budka, col. 4, lines 58-59.) The disclosed method “determines an initial or baseline power transmission level for blocks of the next group of block, and a potentially different power level for each block of the group of blocks, based on the average downlink quality of the previous group of blocks.” (Budka, col. 4, lines 59-65.) More specifically, “[t]he transmit power attenuation level is subtracted from the initial transmit power level to determine the transmit power level for the current block.” (Budka, Abstract.).

The Office Action relies on col. 12, line 65 – col. 13, line 20; col. 13, lines 60 – col. 14, line 5; and Figures 1, 4 and 5 of Budka to teach the above-recited subject matter prior to the amendments made herein. (Office Action, pages 4-5.) The excerpt identified in the Office Action relates to explaining the basis for the equation, Eq. (4), that is used to determine “ Δ^* , the attenuation needed to hit the target bit error rate . . . using parameters known by the power control application 112” of the base transceiver station 110, which is illustrated in Figure 1 of Budka. (Budka, col. 13, lines 56-58.)

“ Δ^* represents how much the transmit power should be attenuated in order to achieve the desired BER for the downlink.” (Budka, col. 13, lines 64-66.)

As stated above, Budka teaches that the “transmit power attenuation level is determined for the current block based on the quality measurement” from the mobile station. (Budka, Abstract.) It thus appears that the Office Action equates the “quality measurement” (*i.e.*, $\overline{\text{BER}}^{\text{avg}}$ discussed at col. 12, lines 15-17 of Budka) from the mobile station with the “quality messages” of claim 12. However, Applicants could not ascertain which item included in a transmission from a mobile unit to the base transceiver station (*i.e.*, included in a “reverse link”) in Budka allegedly comprises the “differential indicators” of amended claim 1. For example, Eq. 4 of Budka employs the $\overline{\text{BER}}^{\text{avg}}$ noted above, which comprises a “mean bit error rate measured by mobile station m over the measurement interval.” (Budka, col. 13, lines 15-17.) As indicated above, the mean bit error rate ($\overline{\text{BER}}^{\text{avg}}$), however, is apparently equated to a “quality message” of claim 12, and thus does comprise one of the “differential indicators.”¹ Further, the attenuation level (Δ^*) is calculated by the power control application 112 of the base transceiver station 110 based on the $\overline{\text{BER}}^{\text{avg}}$ (*see* Budka, col. 5, lines 24-35; col. 12, lines 50-59; and Figure 1) and thus is not included in a “reverse link,” as recited in claim 12. Further, Applicants could not identify any other information used in Eq. 4 that is received via a “reverse link,” beyond the mean bit error rate ($\overline{\text{BER}}^{\text{avg}}$) discussed above. Thus, Applicants respectfully submit that the cited excerpts of Budka fail to teach or suggest “receive circuitry operative to receive signals on a reverse link, including . . . differential indicators at a second rate, . . . wherein the differential indicators track the quality metric between successive quality messages.” Further, Applicants could not identify any other portion of Budka that teaches or suggests this subject matter. Applicants thus respectfully submit that the cited references fail to teach or suggest the subject matter of claim 12.

Applicants further respectfully submit that the subject matter “wherein the second rate is greater than the first rate” is not taught or suggested by the cited references. It appears that the Office

¹ Alternatively, if the mean bit error rate ($\overline{\text{BER}}^{\text{avg}}$) were construed to be a “differential indicator,” then Budka would lack a “quality message.”

Action relies on Budka to teach this subject matter. (Office Action, pages 5-6.) As noted above, Applicants could not identify any signal segment of Budka transmitted on a reverse link that could be construed as “differential indicators.” Teaching a differential indicator is a logical prerequisite to teaching or disclosing a *frequency* of differential indicators or a *frequency* of differential indicators relative to a frequency of quality messages. Furthermore, Applicants could not otherwise identify any teaching or suggestion within Budka of “quality metrics” and “differential indicators” that are transmitted at different frequency levels from a mobile unit. Applicants also note that the subject matter “the second rate is greater than the first rate” appears in claim 44, which the Office Action has found to be allowable. Thus, Applicants respectfully submit that Budka fails to teach or suggest “wherein the second rate [of the differential indicators] is greater than the first rate [of the quality messages],” as recited in amended claim 12.

Claim 31 recites “generating quality messages at a first frequency, the quality messages providing information on the quality of a communication link,” and “generating differential indicators at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency.” As discussed above, the combination of DeMartin, Ling, Kamel and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 31 is allowable. Claims 32-37 and 39-40 depend from claim 31, and are therefore allowable for at least the same reasons as claim 31.

Claim 41 recites “a quality message processing unit for generating a quality message at a first frequency based on the measured link quality . . . ,” and “a differential analyzer for . . . generating differential indicators at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency.” As discussed above, the combination of DeMartin, Ling, Kamel and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 41 is allowable. Claim 42 depends from claim 41, and is therefore allowable for at least the same reasons as claim 41.

III. Claims 8-9, 11, 15-17, 20-21, 23 and 28-29 Rejected Under 35 U.S.C. § 103(a)

Claims 8-9, 11, 15-17, 20-21, 23 and 28-29 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 5,905,742 to Chennakeshu et al. (hereinafter, “Chennakeshu”) in view of Kamel and Ling further in view of Budka. Applicants respectfully request reconsideration in view of the above claim amendments and the following remarks.

The standard to establish a *prima facie* case of obviousness is provided above.

Claim 8 has been amended to recite “transmitting quality messages at the first transmission rate; and transmitting differential indictors independently of quality messages at the second transmission rate, wherein the second transmission rate is greater than the first transmission rate.”

The Office Action indicates that Chennakeshu, Ling and Kamel fail to disclose the foregoing subject matter of claim 8. (Office Action, page 10.) Instead, the Office Action relies on col. 13, lines 60 - col. 14 line 5 and Figures 1, 4, and 5 to teach this subject matter. (Office Action, page 10.) As explained above, in connection with claim 12, Applicants respectfully submit that Budka fails to teach this subject matter.

For at least the foregoing reasons, Applicants respectfully submit that amended claim 8 is allowable. Claim 9 depends from claim 8, and is therefore allowable for at least the same reasons as claim 8.

Amended claim 11 recites “means for transmitting quality messages at the first transmission rate; and means for transmitting differential indictors independently of quality messages at the second transmission rate, wherein the second transmission rate is greater than the first transmission rate.” As discussed above, the combination of Chennakeshu, Kamel, Ling and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 11 is allowable. Claim 23 depends from claim 11, and is therefore allowable for at least the same reasons as claim 11.

Amended claim 15 recites “transmitting quality messages at the first transmission rate; and transmitting differential indicators at the second transmission rate independently of quality messages,

wherein the second transmission rate is greater than the first transmission rate.” As discussed above, the combination of Chennakeshu, Kamel, Ling and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 15 is allowable.

Amended claim 16 recites “transmitting quality messages at the first transmission rate; and transmitting differential indicators at the second transmission rate independently of quality messages, wherein the second transmission rate is greater than the first transmission rate.” As discussed above, the combination of Chennakeshu, Kamel, Ling and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 16 is allowable. Claim 17 depends from claim 16, and is therefore allowable for at least the same reasons as claim 16.

Amended claim 20 recites “the differential analyzer further configured to generate quality messages at the first transmission rate, the differential analyzer further configured to transmit differential indicators at the second transmission rate independently of quality messages, wherein the second transmission rate is greater than the first transmission rate.” As discussed above, the combination of Chennakeshu, Kamel, Ling and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 20 is allowable. Claim 21 depends from claim 20, and is therefore allowable for at least the same reasons as claim 20.

Amended claim 28 recites “transmitting quality messages at the first transmission rate; and transmitting differential indicators at the second transmission rate independently of quality messages, wherein the second transmission rate is greater than the first transmission rate.” As discussed above, the combination of Chennakeshu, Kamel, Ling and Budka does not teach or suggest this claimed subject matter. Accordingly, Applicants respectfully submit that amended claim 28 is allowable. Claim 29 depends from claim 28, and is therefore allowable for at least the same reasons as claim 28.

IV. Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 10, 22, 24, 30, 38 and 43 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Applicants also thank the Examiner for allowing claims 13, 18 and 44.

CONCLUSION

In view of the foregoing, Applicants respectfully submit that all pending claims in the present application are in a condition for allowance, which is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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